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Fact Sheet
Emission Inventories

What is an Emission Inventory?

An emission inventory is a current, comprehensive listing, by source, of air pollutant emissions that covers a specific geographic area for a specific time interval. An emission inventory contains the following information.

- Tabular summary of emission estimates by source category
- Background information, including the reasons for compiling the inventory
- Geographic area covered by the inventory
- Time interval represented by the emission inventory (for example, annual, seasonal, hourly)
- Population, employment, and economic data used to estimate and allocate emissions
- Narrative for each source category, including procedures used to collect the data, sources of data (where data are acquired), copies of questionnaires and results, and citations for all emission factors
- Identification of methods used to calculate emissions, including example calculations
- Complete documentation of all assumptions made
- Identification of emissions sources not included in the inventory
- List of references

How do I develop an air toxics emission inventory for my local area?

First, you'll need to determine how you'll use the inventory. You'll probably want to use the inventory for other purposes than assessing public health risk, such as siting ambient air monitors, focusing subsequent inventory improvement work, and developing control strategies and new regulations. Then you'll need to identify the scope of the inventory, required staffing levels and resource allocations, availability and usefulness of existing data, and the strategy for data collection and management. We recommend that you review existing State inventories and EPA inventories as part of the planning phase. We also recommend that you conduct a preliminary screening study to focus your program and resources on the most important sources and pollutants. A good local screening study can provide valuable direction on: (1) what pollutants, source categories, and geographic areas should be included; (2) the relative importance of major, area, and mobile sources; and (3) whether you can base the

inventory on existing inventories, permit files, and other sources of information, such as upset or malfunction reports, Risk Management Plans, and the Toxic Release Inventory (TRI).

It is important that an inventory be as accurate as possible and that its uncertainties be well understood, so that decisions can be made on a sound basis. If the existing inventory is not adequate, substantial improvements may be possible by using local-scale data. You should consider improving emission estimates for certain source categories based on their likely contribution to risk, their emissions estimate uncertainty, and the likely availability of more accurate local information. Because pollutants are emitted from a wide variety of sources, among the most important pieces of information for an improved inventory are the location of each source and the source's relative contribution to the total pollutant emissions. An improved inventory will provide more accurate information as well as an understanding of the level of uncertainty of emissions estimates for each category. An emission inventory incorporating detailed local information is likely to reflect local conditions more accurately than one developed on the basis of general national information. Another benefit of a more accurate emission inventory pertains to the assessment of health risk. Development of a comprehensive inventory of pollutant emissions is the first step in the process of characterizing the associated health risks.

Our most current methodologies for developing air toxic emissions are described in the documentation of the 1996 NTI available at http://www.epa.gov/ttn/chief/nti/index.html#nti. For example, information is available on emissions estimation and allocation methodology. In addition, the Q and A document for the compilation of the 1999 NTI provides some useful information for various components of the NTI, including a discussion of the importance of identifying pollutant species whenever possible. For example, some compounds within the POM group are relatively nontoxic, while others are highly potent carcinogens. This type of inventory enhancement is very useful if a risk assessment is called for. For more information, see http://www.epa.gov/ttn/chief/nti/ntiq&a.pdf.

What air toxic emission inventories are already available?

You'll find substantial information in these sources.

The **National Toxics Inventory (NTI)** is an emission inventory that we develop every three years (1993, 1996, 1999, etc.). It is a complete national inventory of stationary and mobile sources that emit toxic air pollutants, also known as hazardous air pollutants (HAPs). The NTI contains estimates for various types of emission sources, including major sources (stationary sources that emit or have the potential to emit 10 tons per year or more of any listed HAP or 25 tons per year or more of a combination of listed HAPs), area sources (stationary sources that emit or have the potential to emit less than 10 tons per year of a single HAP and less than 25 tons per year of all HAPs combined), and mobile sources (on-road vehicles and non-road sources (including non-road vehicles and equipment, aircraft, locomotives, and commercial marine vessels)). The NTI database contains HAP emission estimates for individual "point" sources (meaning those with a known latitude/longitude location), and

county aggregate emission estimates for area ("nonpoint") sources and mobile sources. We are using the 1996 NTI in preparing our National Air Toxics Assessment. Find out more about the NTI at http://www.epa.gov/ttn/chief/nti/index.html.

The **National Emission Trends (NET)** has historically been a national inventory of criteria air pollutant emissions from major, area, and mobile sources. The NET database contains emission estimates for individual point sources, and it contains county aggregate emission estimates for area and mobile sources. The NET inventory can be used to compile an initial list of emission sources. For HAPs that are also criteria pollutants (such as VOC or PM), you may be able to use the NET to find information on individual sources (e.g., latitude/longitude or facility names) that may not be available elsewhere. For more information, see http://www.epa.gov/ttn/chief.

The National Emissions Inventory (NEI) is a new umbrella that will cover both air toxics (formally the NTI) and criteria pollutants (formally the NET) starting with the 1999 base year inventories. Our goal is to eventually integrate the inventories completely. In the draft 1999 NEI currently under development, although data for air toxics and criteria pollutants are being compiled on the same schedule and within the same data management structure, there are still two paths for data users. For more information on the NEI, see http://www.epa.gov/ttn/chief.

The **Toxic Release Inventory (TRI)** is a compilation of information reported by individual facilities that meet specific reporting requirements about the toxic chemicals they use, manufacture, store, treat, transport, or release into the environment. The TRI can be searched by pollutant, industry type, facility name, or location. TRI data are best used when combined with information from other sources, because the TRI only covers a subset of industrial sources and provides emissions estimates as either stack or fugitive rather than for processes or emission points. Note that facility emissions from the TRI are a subset of those covered in the NTI/NEI for air toxics. You can download updated TRI lists of chemicals, get TRI reports, and search the TRI database at http://www.epa.gov/tri/.

Where else can I find information?

You may be able to find additional information on toxic air pollutant emissions in these sources.

- Existing State or local inventories of HAPs and criteria pollutants (Look for emission information in your local area and from other States or similar cities.)
- Existing registration programs such as annual inventory submittal programs, permit renewal programs, Risk Management Plan submittals, or upset and malfunction reports, although such programs usually do not include smaller significant nonmajor sources or fugitive emissions
- State and local industrial directories

- The *Dun and Bradstreet Million Dollar Directory* listing companies with sales over $1,000,000 per year by Standard Industrial Classification (SIC) code and county, http://www.dnb.com/
- Industries that are prevalent in the State or local area.